

Application No. 10/617,063

IN THE CLAIMS:

Claim Amendments:

1. (Currently Amended) An acetabular reamer comprising a reaming head comprising a plurality of arcuately-shaped segments, the plurality of segments being generally symmetrically distributed about a center point, and being extendable or retractable about the center point to create a variable dimensioned recess in an acetabular region—;

further comprising an actuator for selectively extending or retracting the segments so that the segments remain generally symmetrically distributed about the center point as the segments are expanded or retracted;

wherein the actuator further comprises:

a plurality of translating mechanisms, each mechanism having a first end and second end, the first end attached to a respective segment on a side opposite a convex surface of the segment, each translating mechanism providing translational movement of the respective segment;

a transmission, mechanically coupled to each of the translating mechanisms at the second end, for transferring a rotational movement to the translating mechanism;

an adjustment rod for applying the rotational movement to the transmission;

wherein the translating mechanism further comprises:

a screw coupled to the transmission for transferring the rotational movement; and

a threaded sleeve, having a first sleeve end for attaching the segment and a second sleeve end for receiving the screw, the threaded sleeve being engaged with the screw for converting the rotational movement to a translational movement of the segment.

Claims 2- 4 (Cancelled).

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5. (Currently Amended) The reamer of claim ~~2~~1 wherein the actuator further comprises an adjustment handle, coupled to ~~the~~an adjustment rod, for applying a rotational movement to the adjustment rod so that the respective segments synchronously move a predetermined translation distance such that the segments remain generally symmetrically distributed about the center point when a rotational movement is applied to the adjustment handle.

6. (Original) The reamer of claim 5 wherein the adjustment handle further comprises a locking mechanism for selectively locking the adjustment handle in incremental positions corresponding to incremental translation distances of the segments.

7. (Original) The reamer of claim 6 wherein the incremental translation distances are 1 millimeter (0.04 inch) increments.

8. (Original) The reamer of claim 1 wherein the plurality of segments form an arc subtending an angle of approximately 180 degrees about the center point.

9. (Original) The reamer of claim 1 wherein each segment further comprises a convex cutting surface.

10. (Currently Amended) The reamer of claim ~~4~~9 wherein the convex cutting surface further comprises a cupped configuration for cutting and scooping bone material away from the acetabular region.

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11. (Currently Amended) The reamer of claim 4-9 wherein the convex cutting surface further comprises a grating hole configuration for cutting bone material away from the acetabular region.

12. (Original) The reamer of claim 1, further comprising a drive shaft having a driving end and a driven end, the reaming head attached to driving end and the driven end adapted to receive a rotational driver, the drive shaft transferring rotational movement to the reaming head for reaming the acetabular region.

13. (Original) The reamer of claim 12, further comprising a freely spinning sleeve, slidably positioned over the drive shaft for allowing an operator to hold the reamer without interfering with a rotation of the drive shaft.

14. (Currently Amended) An acetabular reamer comprising:
a reaming head comprising a plurality of arcuately-shaped segments, the plurality of segments generally symmetrically distributed about a center point, the plurality of segments extendable or retractable about the center point to create a variable dimensioned recess in an acetabular region, each segment further comprising a convex cutting surface;

a plurality of translating mechanisms, each mechanism having a first end and second end, the first end attached to a respective segment on a side opposite the convex surface of the segment, each translating mechanism providing translational movement of the respective segment;

a transmission, mechanically coupled to each of the translating mechanisms at the second end, for transferring a rotational movement to the translating mechanism; and

an adjustment rod for applying the rotational movement to the transmission;

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an adjustment handle, coupled to the adjustment rod, for applying the rotational movement to the adjustment rod so that the respective segments synchronously move a predetermined translation distance such that the segments remain uniformly aligned in the a desired cutting arc, when a rotational movement is applied to the adjustment handle;

a drive shaft having a driven end and a driving end, the reaming head attached to driving end and the driven end adapted to receive a rotational driver, the drive shaft transferring rotational movement to the reaming head for reaming the acetabular region; and

a freely spinning sleeve, slidably positioned over the drive shaft for allowing an operator to hold the reamer without interfering with a rotation of the drive shaft.

15-16. (Cancelled)

17. (New) An acetabular reamer comprising a reaming head having a plurality of arcuately-shaped segments generally symmetrically distributed about a center point of the reaming head, each of the plurality of segments being extendable along radial lines from the center point, the reaming head producing a variable dimensioned recess in an acetabular region having the same configuration throughout an extension range of the extendible segments.

18. (New) The surgical cutting tool of claim 17, further comprising an actuator for selectively extending or retracting the segments so that convex surfaces of the segments are uniformly aligned in a desired cutting arc having the same configuration throughout the extension range of the segments.